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THE USE OF YIN'S CASE STUDY RESEARCH APPROACH AS A MEANS TO STIMULATING EMANCIPATORY ACTION RESEARCH

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Abstract

This paper describes the rationale for a collaborative research project between academe and industry that was studying barriers to the exploitation of information technology. In particular, the barriers identified include stereotypical beliefs about IT professionals, implicit beliefs about leaders, the nature of the relationship between IT and business management communities, organisational experience with information technology and innovation and IS/IT leadership.

The major outputs of the research include: a) the development of an approach to uncover implicit leadership beliefs, and variations in the perception of leadership between the business and IT management communities, b) leadership performance of the IT managers using an established and validated instrument (the Multi-factor Leadership Questionnaire) and c) the first benchmarks obtained for IT leadership according to the Full Range Leadership Model.

This paper discusses the use of Yin's approach to case study research and how the outputs of this phase of the study energized the Directors of the IT unit to undertake a program of improving its leadership culture, and of restructuring its relationship with the business management community.

Introduction

Many factors can inhibit or motivate the use of information technology (IT) to improve business processes, increase market share or change the very way in which business is conducted. Influential factors include the leadership capability of the IT executives, and perceptions of the strategic value of IT held by the senior management team in the business community within the organisation. This paper discusses the research methods that guided the conduct of a three-year research program in which we sought to improve the leadership practices of the Information Technology Management and Resources Unit (ITRMU) found within a large public sector agency. This agency is hereafter referred to as Industry Partner (IP).

This IT unit (ITRMU) was seeking to improve its relationships with the business community and to improve internal performance. In particular, the managers within the ITRMU sought to improve their relationship with the business, and become a strategic partner of business units that had discretionary power as to where they could purchase their IT services from.

At the same time, leadership improvement was high on the agenda of the State Government. Indeed, the Office of the Public Service was given a specific brief to improve senior executive and middle management practices. As a result of this report, a consultant was commissioned to assess leadership practices in the Public Service and recommend future initiatives. This review highlighted the need for each agency to seek improvements in leadership. Specifically, the majority of Chief Executives of public sector agencies agreed 'to support and encourage senior staff to be involved in [leadership] programs provided under the leadership framework'. Indeed, the report goes on to state that 'Self development and the development of subordinates must be an explicit performance requirement of all senior executives and be built into performance contracts'.

This background provides the context for our engagement with the industry partner. As the study unfolded, we sought to:

- (a) benchmark IT leadership practices of middle and upper IT managers within the ITRMU,
- (b) characterise the relationships between the IT and business communities in the agency,
- (c) identify uses of IT and blockages to the exploitation of IT for business benefit as based in their history of adoption, adaptation and infusion of Information Technology,
- (d) develop a means to identify the implicit leadership beliefs operant in the agency at that time, and
- (e) find means of improving IT leadership practices.

The first four components could form elements of a case study in which the researcher remains apart from the researched. We had framed the total project as an action research study, but the last phase required moving the project into participative action research with the involvement of all managers. The results from the first four sub-studies enthused the senior IT managers and all managers to seek to develop a leadership culture and to redefine the way they interacted with their business partners and with one another. This type of action research is labeled Emancipatory Action Research as it emancipates the participants from the past (Perry and Zuber-Skerrit 1992). This paper discusses this transition from Participative Action Research to Emancipatory Action Research and suggests how this approach may be used in other IS research projects. We next describe the form of Case Study Research used in the first phases of the study.

Approaches Taken

The overall study was multi-method, but guided by Yin's approach to Case Study Research (Yin 1994) to characterise the issues faced by the ITRMU.

Yin (1994:3), states that the case study approach *'allows an investigation to retain the holistic and meaningful characteristics of real life events – such as individual life cycles, organisational and managerial processes ... and the maturation of industries.'* The case study approach is appropriate here because we sought

- (a) to characterise the organisational and managerial processes constraining leadership and innovation,
- (b) to investigate the maturation of the IT unit within the industry partner, as well as
- (c) to benchmark leadership practices and foster the development of leadership skills of individuals.

Yin (1994:xv) argues that the case study approach may be the most appropriate research method for appreciating the complexity of organisational phenomena. Leadership is a complex organisational phenomenon and is the focus of the research project. Many of the research objectives described above cannot be answered within the positivistic approach. Issues of perception, values, and competence are part of the expectations of leadership, and these can be addressed through a mixture of

- (a) case study methods (to capture the history of the organisation and its current climate),
- (b) phenomenography (to address the current conceptions of leadership competence) and
- (c) action research (to move the organisation to a better expression of leadership and innovation in order to achieve the organisational goals and minimise or control negative aspects).

Yin (1994:1) states that the case study method is the preferred strategy when a). 'how' or 'why' questions are being posed, b). the investigator has little control over the events, or c). the focus is a contemporary phenomenon within some real-world context. In this research project, we sought answers to the following 'how' questions: a). how IT leadership is perceived by the business unit manager, and b). how IT leadership is constrained by organisational expectations, or by organisational experience with IT.

In addition, we had no control over the events impacting on the organisation and limited control over observing behaviour. We had no control over the selection of key personnel. They were all participants in this research arena, some drifting in for a short period of time during the project as external contractors, and others moving through on promotional paths. All participants had the right to refuse to participate in the study. No one was forced to be involved in an interview, or to participate in the leadership benchmarking surveys. No personal data for identifying respondents were taken, though individual managers were tracked through a confidential coding system known only to myself. Thus, we had no control over the inclusion of participants in the study, their relationships with managers or the context in which they were working.

Finally, the focus for this research project was on what was occurring in this organisation during the times of the project. During this project time, the Industry Partner and the ITRMU was in the process of undergoing additional organisational restructuring, adopting enterprise wide application system, and adopting innovative information technology.

Thus, given the nature of the research questions, the lack of control over the events, and the contemporary focus, the case study research method was an appropriate method to use to characterise the organisation according to our variables of interest.

Case Study Strategy

We selected an exploratory form of case study, rather than explanatory or descriptive, in order to focus on barriers to effective IS/IT leadership. We sought to explore the relationships of leadership beliefs and relationships to the expressed and observed leadership styles in the organisation's contemporary culture. After an extensive review of the leadership research literature, we elected to apply the Full Range Leadership Model (Bass and Avolio 1994) which uses the established leadership theory of transformational leadership (Burns 1978, Bass 1985). This model does lead to improved leadership practices, and furthermore, seems linked to the observed leadership styles for IT leaders in organisations seeking to exploit IT for strategic advantage. Our focus was on effective IS/IT leadership, and so we were seeking to benchmark leadership practices, rather than to explain why a predominance of transformational leadership exists, or develop another theory of leadership relevant to the IT domain. We sought to identify the operant implicit model of leadership as held by the IT and business management communities, and to determine if there were any observable differences. Such a model was found, and differences between these models detected, but we were not seeking to confirm other theoretical models of leadership.

We did use a descriptive case study approach in order to describe the history of adoption of IT within the Industry Partner. The descriptive case study seeks to describe the context within which the research event is situated; it 'presents a picture of the specific details of a situation, social setting, or relationship' (Neuman 1994 : 18).

An exploratory case study seeks *'to frame questions for further research: its goals are to become familiar with basic facts, people and concerns; to develop a well-grounded picture of what is occurring or to develop ideas and tentative theories'* (Neuman 1994:19). This is was our objective. We sought to identify current leadership practices, and suggest connections between the current use of IT, the past history and experience of IT, and draw some conclusions about how these factors formed barriers to effective IS/IT leadership.

We hoped that the data gathered using the case study research method would provide the stimulus to managers of the ITRMU to seek to develop its leadership culture through an action research project. As action research, there needed to be cycles of questioning, data collection, reflection, action, and further refinement. The questions posed and related back to the directors of the ITRMU stem from established theories of organisations, organisational culture, innovation diffusion and transformational leadership.

We were NOT seeking to confirm or disconfirm the application of these theories to the current organisational setting, merely to sensitise the directors as to problems, conceptual frameworks that may address these problems, and allow them to identify courses of action to achieve their goal - one of which was leadership development. Thus, we found that the outputs of the exploratory case study research did provide the inputs for participant-led action research. The models of IT management, FRLM, and the derived models of the business-IT relationship and variations in perceptions of leadership were informative to the participants. Elements of descriptive and exploratory case study research inform the research design, and form part of the research outputs.

Case Study Design

There are many case study research designs: single case versus multiple case and holistic versus embedded. A single case study is one in which a single research object/research event is used. A multiple case study is one in which several cases are compiled with the intent of logically replicating the observations. A holistic case study is one in which there is but one unit of analysis in the research project. An embedded case study is one in which multiple units of analysis exist.

In the current research project there are multiple units of analysis: the organisation, the sub-units and the individuals who are the key players in the sub-units and organisation. Thus, an embedded design was appropriate here.

Yin states that a single case study design is appropriate when one has a critical case and is able to test a well-formulated theory; or when the case represents an extreme unique case; or when the case is revelatory. I will argue that our project is a revelatory case, and thus a single case study design was appropriate.

In the current research project, we sought to determine how to move an organisation to seek to establish a leadership culture and improved individual practices. We sought to identify barriers to the exploitation of IT. As Willcocks and Feeny (1997: 461) state,

the core competency required to achieve the exploitation of IT is effective IS/IT leadership. We sought to find some means of benchmarking effective IS/IT leadership and found this in theories of change leadership (Bass and Avolio 1985,1994). We needed to identify elements that suppress the expression of effective IS/IT leadership and turned to theories of social psychology (Snyder 1981,1984) on how beliefs constrain reality. We needed to determine the nature of the IT and business relationship, and turned to phenomenography and hermeneutics to devise a study that would characterise the operant model within the organisation during the time of the study.

We needed an organisation that is undergoing significant change in organisational restructuring, adoption of technology and disharmony between the IT unit and business units. In other words, we sought to ground the study in a critical case: one that meets all the conditions required for a critical case (Yin 1994 : 38) that permitted the exploration of the variables that we had identified as barriers to IT exploitation: effective IS/IT leadership, organisational history with IT, organisational expectations of IT, and the Business-IT relationship.

The current research partner met these conditions. The research partner was also a revelatory case as they provide a unique opportunity to observe and analyse a phenomenon previously inaccessible. We required access to the highest levels within the organisation - all executive directors and all IT managers. We required access to sensitive documents - project minutes, steering committee reports, business cases, post-implementation reviews, and internal financial documentation. We were able to gain such access and in this sense, the industry partner represents a revelatory case.

I next show that a multiple case study design was not feasible for this project.

A multiple case study design is found where there are several cases to examine, some with similar outcomes and others with different outcomes. Multiple cases are appropriate when seeking to replicate the findings in other settings. Such replication can be a literal replication or a theoretical replication. In a literal replication, the input characteristics of the cases are the same leading to the same outputs. In a theoretical replication, different inputs are found that lead to the hypothesised different outputs. The complexity of the conceptual model and the desired input state prevents a multiple case study design being used.

Thus, the design for the case study was a single embedded revelatory case. This type of design is justified when the case represents a critical test of existing theory. The theoretical elements to be assessed include:

- (a) that transformational leadership is valued by the key players,
- (b) that variations exist in the implicit model of leadership as held by business and IT leaders,
- (c) that barriers exist where transformational leadership is not being expressed,
- (d) that the image of the IT unit has improved through the application of transformational leadership as expressed by the executive of the ITMRU, and
- (e) that the history of the adoption of IT has constrained the relationships between the IT and Business units.

Summary

The unique position of the research partner in terms of rate of organisational change, adoption of technology, embracement of enterprise wide systems and organisational restructuring makes the organisation both a critical case and a revelatory case. The proposed conceptual model (linking history, expectations, culture, and expressed leadership style) demonstrates the interaction of several units of analysis: business sub-unit and individual as well as aggregated groups within the ITRMU (executives, staff, operations, information systems, and project management). This combination makes the initial research design to be an embedded single-case revelatory case study.

The organisation is made up of several business-units, including the IT unit. Each business unit was examined and a detailed history of the IT unit undertaken. This descriptive study helped position the organisation in terms of its current dependency on IT, its perception of the strategic value of IT and its experience and expectation of IT. Key theories of organisational change, IT leadership, Innovation Diffusion and Leadership were used as inputs to the action research components and to explain some of the observations obtained in the case study.

There is a prevailing view that case study research is a form of 'investigation having insufficient precision (that is quantification, objectivity, and rigour)' (Yin 1994 : xv). These criticisms are removed through adopting an appropriate case study research design and triangulating with recognised empirical measures. We sought to triangulate our observations of leadership culture and expectations through the related qualitative and quantitative studies on Implicit Leadership Beliefs. We triangulated observations between interview questions, and from different sources of documentation.

The case study protocol was formed and executed as follows:

- (a) Critical documentation was reviewed to establish the reliance of the agency on its IT investments.
- (b) All IT project documentation over the period 1990-1999 was reviewed to:
 - determine the strategic thrust of development and identify issues of development,
 - determine the relationship between the business and IT communities, and
 - determine the view of IT as held in each business division.
- (c) All annual reports reviewed and analysed from 1976 to 1999 to determine the role and structure of the ITMRU, the evolution of the core business systems, and the stated expectations of IT for the Industry Partner.
- (d) Interviews were held with the executive directors of each division within the organisation on the various aspects of the study, and
- (e) Quantitative measures of actual leadership practices taken in an embedded survey (using the Multi-factor Leadership Questionnaire).

Thus, the final unit of analysis in this study was the individual. Key players were assessed in terms of their leadership style, experience with IT and innovations, expectation of IT (or of business managers) and relationships with IT executives. Finally, this research project was framed and structured as an Action Research Program in order to establish a new IT leadership culture, with the case study components providing the information needed to move the ITRMU in the desired direction. After all this data gathering was completed, the project successfully moved into an emancipatory phase of Action Research, one which was driven by the IT directors to change their leadership practices and to '*become a strategic partner of business*'.

The Project as Emancipatory Action Research

Emancipation is defined as '*setting free from intellectual or moral fetters*' (Oxford Dictionary fifth edition). For some participants, the models and results that we placed before them were emancipatory in that they created a catalyst for change. These results revealed new possibilities in individual actions, and between-group relationships. For all, the newly understood Full Range Leadership Model (FRLM) was empowering, as it explained how to behave in order to become a more effective leader. There was a raising of the collective consciousness as each person now had understood an explanatory model of leadership, had identified areas for group improvement and were cognisant of their own areas of improvement. The FRLM put the power of leadership in their hands. They became responsible for being effective leaders by practicing specific behaviours. The clear identification of gaps in group purpose, mission and values allowed the group of IT managers to develop a leadership charter and implement new management practices. Thus, the result of the research project was to stimulate a desire for change in the internal culture. It gave individuals new knowledge that freed them from historical practices and gave them structures and a rational model on which to base future practices.

Key sources of emancipation were:

- (a) the individual debriefing on leadership practice strengths and weaknesses;
- (b) the clear identification of simple strategies to increase their personal leadership effectiveness;
- (c) the realisation that they were a leader, not just a controller of resources, and that they had to communicate a sense of purpose, mission and values to their staff using the tactics of leaders;
- (d) the realisation that all directors had an expectation of leadership from their subordinates;
- (e) the clear articulation of a sense of purpose, mission and values through a process of shared vision creation,
- (f) the centrality of the nature of the relationship between the IT and business communities as a critical success factor in developing, delivering and supporting the business use of IT;
- (g) the awareness that business needs are a function of both business drivers as well as the perceived value of IT to the senior management in the business community, and
- (h) the understanding that the IT manager had a central role to play in fostering this relationship and in developing a better appreciation in the business partner of the value of IT

The outcomes of this project emancipated the IT manager from the management structures and practices of the past and empowered them to change the very ground rules of conduct and performance. This occurred in all facets of their professional practice as individuals, teams, branches and as a business unit. The directors, and sub-unit managers worked collectively in a retreat, and through workshops to refine the emerging model. Thus, the action research program, commencing as a series of embedded case studies, provided the impetus to engage the organisation to seek radical change. This method did emancipate the management team, and provide improved practices and tangible benefits. This research approach may be useful in other IS research projects, whereby significant change is sought through the application of theory to practice. Such problem domains

include change management, IT diffusion, IT innovation, and user empowerment. The key to success of such projects appears to be engaging staff and management in dialog informed through empirical evidence.

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